EMPIMORPHA GENEATIS MELANDER, A BALLOON FLY FROM CALIFORNIA, WITH A CHEMICAL EXAMINATION OF ITS BALLOONS

(Diptera: Empididae)

BY EDWARD L. KESSEL AND JOSEPH V. KARABINOS University of San Francisco

On several occasions during March, 1946, a number of conspicuous white objects which glistened in the morning sunshine were observed zigzagging back and forth through the air in small groups in the immediate vicinity of some Monterey pines (Pinus radiata Don) at Mill Valley, California. Scrutiny of the scintillating white objects from the ground revealed that they were carried by inconspicuous black insects which were difficult to observe closely or capture because they were flying at an altitude of 15 or 20 feet. Only by tying the net handle to a sturdy surf-casting rod and then mounting the top of a 6-foot stepladder was it possible to bring any of the specimens to net. They proved to be male flies belonging to the family Empididae and the white object which each carried was a delicate, frothy, balloon-like structure which invariably had a minute dipteran or hymenopteran adhering to its anterior surface. The flies were never numerous, but persistent collecting during the 1946 season resulted in the capture of about 30 of them, each with its balloon and prey.

Most of the specimens taken in 1946 were deposited in the collections of the University of San Francisco and the California Academy of Sciences, but three of them were sent to Dr. A. L. Melander who kindly identified them as *Empimorpha geneatis*, a species which he had described (Melander, 1902) from a single specimen collected by Baron somewhere in California. This holotype, a male apparently taken without a balloon, is now in the American Museum of Natural History. There seem to be no reports of further captures of this insect.

Inasmuch as during the 1946 season all the balloon flies possible were captured for museum specimens without much attempt to